

REMARKS

Claims 54-90 are all the claims pending in the application.

Claim 90 is rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement. Applicant respectfully traverses the rejection.

The written description requirement requires the subject matter in the claims to be described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor, at the time the application was filed, had possession of the claimed invention.

Here, the rejected claims recite that “the index is contained in a container, the container having a string repository, wherein the string repository does not contain a string corresponding to the predetermined code value.” In the Office Action it is asserted that the specification fails to describe the string repository not containing a string corresponding to the predetermined code value.

The written description requirement does not mandate that subject matter of a claim be described literally (i.e., using the same terms or *in haec verba*) in order for the disclosure to satisfy the written description requirement. MPEP § 2163.02. Rather, “[t]he test for sufficiency of support in a parent application is whether the disclosure of the application relied upon ‘reasonably conveys to the artisan that the inventor had possession at the time of the later claimed subject matter.’” MPEP § 2163.02, citing *Ralston Purina Co. v. Far-Mar-Co., Inc.*, 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed. Cir. 1985). As stated in the MPEP, “the fundamental factual inquiry is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed. See, MPEP § 2163.02, citing *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991).”

It is respectfully submitted that a person skilled in the art of designing systems using TV-Anytime Forum metadata, when reading the application would immediately understand that a string repository in a TV-Anytime Forum index container employing Applicant's invention, would not contain a string corresponding to the predetermined code value used to represent an X-Path location of a fragment of metadata. Reading the specification, a person skilled in the art would understand that the whole point is to use a predetermined code instead of a conventional XPath string for the index keys.

In numbered paragraph 2 of the Office Action it is asserted that "there is no basis in the specification for the negative limitation in the claim" (referring to the limitation of "wherein the string repository does not contain a string corresponding to the predetermined code value"). The Examiner admits that the specification describes that the location information is expressed as a predetermined code, but states that "this does not support 'the string repository not containing a string corresponding to the predetermined code'." The Examiner further states that "[m]erely expressing location information as a code does not exclude a corresponding string being stored in the string repository." See paragraph 2 of the Office Action.

The written description requirement does not mandate that the applicant has to "describe exactly the subject matter claimed," but only that "the description must clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." MPEP § 2163.02, citing *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563, 19 USPQ2d 1111, 1116 (Fed. Cir. 1991), citing *In re Gosteli*, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989).

A person skilled in the art of TV-Anytime Forum metadata, would immediately recognize that the inventor of the present application invented the invention recited in claim 90. Such a skilled artisan would understand that in a TV-Anytime Forum index container "[t]he

string repository is used to hold all strings used by a given container.” See Evain (SP003 V1.3 part B- System Issues) § 2.2.3, which is referenced in paragraph [03] of the substitute specification in the present application. Fig. 5 of the present application shows an index container, described in paragraphs [13] and [14], containing a key index list section (10), a key index section (20), and a sub key index section (30). These sections contain the structures described in the specification in which a predetermined code is used instead of the XPath string. Since the XPath string is replaced with a predetermined code, that XPath string would not appear in the string repository. The Examiner asserts in numbered paragraph 2 of the Office Action that “there is no basis in the specification for the negative limitation in the claim.” However, that is incorrect. The specification expressly states that encoded values may be used instead of the conventional XPath statements (“That is, encoded values may be designated and used for the frequently used keys instead of the conventional XPath for the keys.” Paragraph [116] of the substitute specification). Since encoded values of the conventional XPath statements would be used “instead of” the conventional XPath expression, a string for that conventional XPath statement would not appear in the string repository. Accordingly, a person of skill in the art would understand from the specification that “the string repository does not contain a string corresponding to the predetermined code value,” as recited in the rejected claims.

Hence, Applicant respectfully submits that claim 90 is adequately supported by the written description. Claim 90 should not be rejected for reciting a negative limitation also because, as the MPEP acknowledges, “[t]he current view of the courts is that there is nothing inherently ambiguous or uncertain about a negative limitation.” MPEP § 2173.05(i). As discussed above, the limitations in claims 90 do have a basis in the original specification and therefore should not be rejected.

Claims 54-90 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Evain in view of Kirk. Applicant respectfully traverses this rejection.

The Evain reference is the TV-Anytime Forum, version 1.3 working draft of the metadata specification. More specifically, it concerns the indexing of metadata and defines the data structures, called Index Containers, used to transport the TV-Anytime index structures. See Evain 2.1, which describes the container as forming the top-level storage in which all data is transmitted. Index containers contain index sections, a string repository and a fragment data repository. See Evain 2.1.2. Evain teaches that XPath statements are used for identifying indices. See Evain 2.3.1.1. The key index list uses, for example, a key_xpath_ptr field that contains an offset into the string repository where an XPath string is stored that specifies the location of the key. See Evain 2.3.2. Evain further teaches that the string repository is used to hold all strings used by a given container, such as the XPath strings that define the location of an index. See Evain 2.2.3.

Kirk is directed to improving “optimization and execution of queries against database columns having enumerated storage.” Col. 1, lines 25-30. Kirk describes enumerated storage at col. 2, lines 20-50, as a technique for efficiently storing information in a database. According to Kirk, enumerated storage uses a dictionary look-up style scheme. A dictionary, or look-up table, contains a list of distinct values that are offsets into a look-up table, which serve as an address for locating the information associated with the value. The table in column 2 shows an example of a look-up table in which an offset (e.g., 1) is associated with a value (e.g., “Texas”). A column in the database would contain only the offset (e.g., 1) and not the value (e.g., “Texas”).

Kirk, more specifically, is directed to a method for accelerating execution of database queries against columns having enumerated storage. Col. 4, lines 29-32. Kirk describes a

method that relies on a database having enumerated storage to access a pre-computed result of a predicate. See col. 9, lines 52-60 (“The present invention leverages enumerated storage for a particular column of a database table by using the same offset associates with raw data values stored in a dictionary or look-up table for other purposes.”). Kirk describes storing the offset (e.g., 1) indicated in a look-up table in the database instead of the raw values (e.g., “Texas”) and providing another look-up table created at the time of query execution to indicate the result of a query. See col. 10, lines 15-37 and the table at col. 10, lines 40-48. It is the creation and use of this second look-up table that Kirk attributes the accelerated execution of a query. Col. 10, lines 53-55.

Claim 54, for example is rejected, as being obvious over Evain in view of Kirk. In the Office Action it is asserted that Evain discloses all the limitations of claim 54 except for the limitation of at least part of the location information defining a key is expressed as a predetermined code. The Examiner relies on Kirk disclosing that a string (e.g., “Texas”) is expressed as a predetermined code (e.g., 1) and that the code is stored in lieu of the raw value, in order to increase performance. The Examiner asserts that it would have been obvious to have modified Evain to store a numeric code in lieu of the claimed location information string, in order to increase performance, as Kirk allegedly teaches in col. 10. The Examiner also asserts that it would have been obvious to have combined the references to increase the speed of comparison since, it is asserted, numeric comparisons are faster than string comparisons.

Applicant respectfully submits that neither Evain nor Kirk, alone or in combination, teach or suggest the claimed limitation of using an index having a list of keys and location information for defining the keys, in which at least a part of the location information is expressed as a predetermined code value. Evain is concerned with index containers for transmitting metadata

index information. In contrast, Kirk is concerned with operating on databases containing enumerated values. It is respectfully submitted that a person of ordinary skill in the art, when considering Evain and transmitting index containers, would not look to the teachings of Kirk. Kirk is not concerned with transmitting index information; Kirk is concerned with optimizing queries on enumerated databases. Evain does not mention nor is it concerned with enumerated databases; Evain is concerned with transmitting metadata index information. Accordingly, a person of ordinary skill in the art would not have looked to Kirk to improve on Evain. Accordingly, a person of ordinary skill in the art would not have found it obvious to modify Evain based on the teachings of Kirk as asserted in the Office Action.

Further, one of Evain's principles of operation is to transmit XPath expressions, as discussed in detail in Evain. Modifying Evain based on Kirk's enumerated database to eliminate the XPath statements in an index container's string repository and replace them with a numeric code, would change the principle of operation of Evain. Accordingly, a person of ordinary skill in the art would not have found it obvious to make such a fundamental change, as the MPEP recognizes. See MPEP § 2143.01 ("If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)").

It is respectfully submitted that the asserted Evain/Kirk combination does not render the remaining claims obvious for at least the same reasons.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

/J. Warren Lytle, Jr./

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

J. Warren Lytle, Jr.
Registration No. 39,283

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

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